



Communication and laboratory performance in parapsychology experiments: Demand characteristics and the social organization of interaction

Robin Wooffitt*

University of York, UK

This paper reports findings from a conversation analytic study of experimenter–participant interaction in parapsychology experiments. It shows how properties of communication through which the routine business of the experiment is conducted may have an impact on the research participant's subsequent performance. In this, the study explores social psychological features of the psychology laboratory. In particular, it examines aspects of Orne's (1962) account of what he called the demand characteristics of the psychological experiment. The data come from a corpus of audio recordings of experimenter–participant interaction during experiments on extra-sensory perception. These kinds of experiments, and the phenomena they purport to study, are undoubtedly controversial; however, the paper argues that there are grounds for social psychologists to consider parapsychology experiments as a class (albeit distinctive) of psychology experiments, and, therefore, as sites in which general social psychological and communicative phenomena can be studied. The empirical sections of the paper examine interaction during part of the experimental procedure when the experimenter verbally reviews a record of the participant's imagery reported during an earlier part of the experiment. The analysis shows that the way in which the experimenter acknowledges the research participants' utterances may be significant for the trajectory of the experiment and explores how the participants' subsequent performance in the experiment may be influenced by interactionally generated contingencies.

This paper examines how the properties of communication through which the routine business of a parapsychology experiment is conducted may have an impact on the research participant's subsequent performance in the experiment. In this, the study explores social psychological features of the psychology experiment.

Interest in the social psychology of the psychology experiment was prompted by Orne's analysis of what he called the demand characteristics of the experimental setting

* Correspondence should be addressed to Robin Wooffitt, Department of Sociology, University of York, Heslington, York YO10 5DD, UK (e-mail: rw21@york.ac.uk).

(Orne, 1962). Demand characteristics are 'the totality of cues and mutual expectations which inhere in a social context (e.g. a psychological experiment or therapy situation), which serve to influence the behavior and/or self reported experience of the research receiver or patient' (Orne & Whitehouse, 2000: 469). The concept illuminates the ways in which the research participant may try to infer the experimenter's reasons for asking them to perform certain tasks, and will therefore consciously or unconsciously amend their behaviour accordingly, thus producing potentially robust experimental artifacts unconnected to the variables the experiment was designed to study.

It is important to distinguish between experimenter effects and demand characteristics. The concept of the experimenter effect refers to the processes whereby experimenters tacitly or unselfconsciously influence the outcome of experiments (e.g. Rosenthal & Fode, 1963; Rosenthal & Jacobson, 1966). However, these can be controlled for: the double blind procedure ensures that experimenters may be unaware of the hypothesis being tested in a particular experiment. Demand characteristics, however, can not be controlled for: they are relevant to all experimental settings because they are (at least to some degree) generated from the participant's tacit or explicit reasoning about the purpose of the experiment and their assessment of the experimenter's conduct. For Orne, then, demand characteristics are an important aspect of the psychological laboratory because they are ubiquitous and could threaten the ecological validity of any experimental design.

Orne's paper is regarded as a key intervention in the analysis of the ways in which social psychological factors inform laboratory practice in psychological experiments (see, e.g. Whitehouse, Orne, & Dinges, 2002). Moreover, the role of demand characteristics has been explored by numerous researchers in experiments on a range of psychological phenomena, such as memory and recall (Bjorkland *et al.*, 2000; Lampinen, Neuschatz, & Payne, 1999; MacLeod, 1999), the psychological and physical effects of menstrual cycles (AuBuchon & Calhoun, 1985), the clinical investigation of psychopathologies (Orne & Bauer-Manley, 1991), self-reports and assessments of pain (Fernandez & Turk, 1994; Malec & Sippelle, 1977), anxiety (Cramer & Buckland, 1995), the 'tip of the tongue' phenomenon (Widner, Smith, & Graziano, 1996) and mood (Berkowitz & Troccoli, 1986; McKenna & Lewis, 1994).

However, there has been little systematic analysis of the way language is used in the psychological laboratory. This is perhaps surprising given that Orne identified communication between experimenter and participant as a key feature of the emergence of demand characteristics. An exception to this is Kihlstrom's (2002) reflection on the central significance of verbal interaction between participants in laboratory experiments. He argues that it is necessary to recognise that experimenter and participant are always engaged in a conversation, and it is therefore necessary to consider how the logic of conversation may give rise to and inform the participant's interpretation of their role in the experiment.

To highlight the importance of language in the laboratory, however, Kihlstrom draws from Grice's account of the cooperative principles which inform conversation. While Grice's account is useful in focusing on speakers' broader concerns in verbal conduct, it provides little insight to the turn-by-turn development of interpersonal communication, nor the kinds of sequential and normative orders, which inform turn production and which have been systematically described in the burgeoning conversation analytic literature (e.g. Atkinson & Heritage, 1984; Arminen, 2005; Boden & Zimmerman, 1991; Button & Lee, 1987; Drew & Heritage, 1992; Heritage & Maynard, 2006; Sacks, 1992; te Molder & Potter, 2005). A conversation analytic

investigation of the way that demand characteristics emerge in experimenter-participant interaction may contribute to our understanding of the broader interpersonal dynamics of the psychological experiment.

In this paper, I draw from conversation analysis (CA) to examine data from a corpus of audio recordings of experimenter-participant interaction during parapsychology experiments on extra-sensory communication (ESP). The analysis examines how routine communicative practices impact on the participants' performance during a key stage of the experimental procedure. Primarily, then, the paper seeks to contribute to our understanding of the socially organised dynamics of psychology experiments and suggests ways in which the interactional infrastructure of laboratory procedure may significantly influence the experimental outcome. However, the analysis also addresses a matter which is of central importance to parapsychologists: the influence of the experimenter's interpersonal style during the experiment on the likelihood of finding evidence of psi phenomena (the term used to denote the paranormal mental faculty which underpins parapsychological phenomena). Readers of this journal, however, may be puzzled as to the social psychological relevance of parapsychological research. In the following brief discussion, then, I hope to outline some of the ways in which activities in the parapsychology laboratory can be the site for social psychological investigation, particularly research on language and social interaction

The relevance of research on anomalous experiences

Psychologists have tended to be extremely sceptical about the scientific legitimacy of parapsychology (McClenon, 1982). This is largely because of the perceived absence of experimental evidence for psi. Moreover, social psychological research on claimed paranormal phenomena has tended to focus on trying to discover the cognitive and perceptual processes which deceive people into thinking they have had truly extraordinary experiences (e.g. Forer, 1949; Hyman, 1977; Singer & Benassi, 1981). Traditionally, then, psychology has been reluctant to study anomalous experiences seriously and occasionally hostile to those who engage in such a project. However, that attitude may be softening. Elsewhere (Wooffitt, 2006; Wooffitt & Allistone, 2005) I have outlined in detail some of the reasons why psychologists and the wider academic community may be looking afresh at anomalous experiences, but it is useful to rehearse some of these here.

Firstly, there is a renewed interest in the value of studying anomalous experiences across a range of scientific, social science and humanities disciplines such as psychology (Braud & Anderson, 1998; Cardena, Lynn, & Krippner, 2000;), medical and neurosciences (Parnia, Waller, Yeates, & Fenwick, 2001; Van Lommel, van Wees, Meyers, & Elfferich, 2001), philosophy (Strober & Meynell, 1996), sociology and cultural studies (Campbell & McIver, 1987; Collins & Pinch, 1982; Hess, 1993; McClenon, 1994), folklore (Bennett, 1987; Hufford, 1982, 1995), anthropology (Walker, 1995; Young & Goulet, 1994) and in discourse studies (Williams, 1996; Wooffitt, 1992; 2006). What unites this diverse range of research is an attempt to take seriously the phenomenology, implications and impact of ostensible paranormal experiences. This does not require an endorsement of the ontological status of paranormal phenomena as implied or explicitly claimed by experiencers. Rather, the emphasis has been to suspend judgment on the ultimate reality of claimed experiences and phenomena, and to explore instead the extent to which careful study of reports of extraordinary or marginal phenomena can

reveal new dimensions of human experience and inform our understanding of existing cognitive, social and cultural processes.

Secondly, parapsychologists have enjoyed some success in their attempts to offer statistically significant evidence of psi phenomena. (Overviews of parapsychology and its successes and failures can be found in Broughton, 1991; Edge, Morris, Palmer, & Rush, 1986; Irwin, 1999; Radin, 1997.) For example, the ganzfeld ESP experimental procedure, described below, seems at times tantalisingly close to delivering replicable demonstration of anomalous communication. Sophisticated statistical analyses by independent statisticians have supported the parapsychologists' claims. For example, the statistician Jessica Utts has reviewed experimental evidence from over two decades' worth of parapsychological experiments in USA and in Europe and concluded that 'anomalous cognition is possible and has been demonstrated...[and] replicated in a number of forms across laboratories and cultures' (Utts, 1995: 311). Meta-analyses of parapsychological research have also indicated that there is a real psi effect (Bem, Palmer, & Broughton, 2001; Radin, 1997; Storm, 2000; Storm & Ertel, 2002).

Of course, there have been other meta-analyses which do not find statistically significant evidence of psi (e.g. Milton & Wiseman, 1997; see also Milton, 1999; and the debate in Schmiedler & Edge, 1999) and the status of parapsychology remains controversial. However, the experimental evidence is at least suggestive. As a consequence, parapsychologists have achieved some success in publishing in key psychology journals (e.g. Bem & Honorton, 1994) and parapsychological phenomena are being given serious – albeit cautious – treatment in recent psychology 'A' level and undergraduate textbooks (e.g. Gross, 2003; Hayes, 2000).

Perhaps, the key reason why claims for parapsychological phenomena have not been more widely accepted in the psychological community is the variable success of parapsychological experiments. Experimental procedures which seem to work in one laboratory do not necessarily produce significant results when conducted by other parapsychologists elsewhere. This is not a veiled suggestion that there may be fraudulent behaviour occurring. Even sceptics acknowledge that fraud would not account for the range of positive results achieved by parapsychologists. In addition, there is acceptance that parapsychologists have made significant efforts to establish their scientific credibility: many have actively encouraged sceptical analysis of their experimental procedures, and there have been instances of collaboration between parapsychologist and trenchant critic in the development of experimental design (Hyman & Honorton, 1986). What seems to be at issue here, broadly put, is the effect of the experimenter on the occurrence of psi.

Within the parapsychological literature, it is acknowledged that some experimenters seem to be psi conducive, in that their experiments regularly produce evidence of psi, and others are psi inhibitory, in that they rarely if ever find evidence for psi in laboratory experiments (e.g. West, 1954: 150–151; Wiseman & Schlitz, 1997). Parapsychologists have consequently wondered what it is that makes some experimenters so successful and others less so. (Smith, 2003 provides an overview of thinking and research on the experimenter effect in parapsychology.)

In trying to understand the experimenter effect, some have suggested that it is necessary to consider the kind of interaction between experimenter and participants in their experiments. For example, experimental evidence from ganzfeld and other parapsychological experiments suggests that broadly, 'positive' experimenters who believe in psi obtain better results than negative experimenters who do not (Honorton, Ramsey, & Cabibbo, 1975; Watt, 2002; Wiseman & Schlitz, 1997). General discussions of

the characteristics of psi conducive laboratories draw attention to the effect of the experimenter's relationship with the receiver (Giesler, 1986; Honorton *et al.*, 1975; Schneider, Binder, & Walach, 2000). Finally, the importance of the rapport between experimenter and participants, and the experimenter's 'warmth' regularly informs more general discussions of parapsychological methodology (Parker, 2000; Schlitz & Honorton, 1992; Schmeidler & Edge, 1999).

It is not surprise that parapsychologists have pondered the impact of experimenter-participant interaction: it seems intuitively plausible that developing a supportive and encouraging stance towards experimental participants will make the experience more pleasant for all parties and may encourage participants to try harder to expect, and thereby facilitate, positive results, and so on. In addition, it is no surprise either that parapsychologists have tried to examine the influence of forms of verbal interaction. Verbal communication is the site of sociality, and we would expect that the verbal relationship between experimenter and participant would be important in the development of rapport. Discussions of the experimenter effect in the parapsychological literature thus invariably address issues of relevance to social psychologists and researchers in cognate disciplines: the development and emergence of albeit short-lived interpersonal relationships, and the effect of discursive practices through which the experiment as a period of social interaction is conducted. Social psychological investigation of these issues, then, may make a direct contribution to issues which are extremely important to parapsychologists.

If parapsychologists continue to produce statistically significant evidence of anomalous cognition, it will be paramount to investigate the variables that effect psi performance in the laboratory. It is important to stress, however, that the warrant for a social psychological investigation of the social dynamics of the parapsychology laboratory need not rest on the assumption that psi exists or even imply an in-principle acceptance that it might. Even sceptics have acknowledged that some parapsychology experiments produce non-random results; however, it is argued that these anomalous results do not indicate the operation of extrasensorimotor communication, but they are the consequence of some as-yet unknown procedural phenomena (e.g. Hyman, 1985). Analysis of the interpersonal and communicative processes through which laboratory experiments are conducted will be well placed to identify these processes, and thereby further our understanding of the ways in which social processes shape experimental outcomes.

Data and method

The data for this study are transcripts and audio recordings of ganzfeld ESP experiments conducted during the mid 1990s at the Koestler Parapsychology Unit in the Department of Psychology at the University of Edinburgh.

In the Edinburgh ganzfeld ESP procedure, there are three participants: the experimenter, a receiver (a member of the public) and sender (either another experimenter or friend/relative of the receiver). The receiver is located in an environment which minimises variations in sensory input. Also, they are in a highly relaxed state induced by listening to a relaxation tape prior to the start of the experiment. (The rationale for this is that previous experimental research and anecdotal evidence suggest that psi is a weak signal which can be best detected during reduced brain activity and arousal.) The experiment has three main phases. During the sending phase the sender tries mentally to send or project images of a target, usually a short

video clip from a large database chosen randomly by specifically modified software. This clip is shown several times during the sending part of the experiment. During the sending period, the receiver is asked to report verbally whatever images or sensations they are experiencing. This report is called their mentation. The mentation report is noted by an overhearing (but at this point, non-participating) experimenter in another room. After the sending period, the experimenter makes contact with the receiver (they can communicate via an intercom system and headphones) and the mentation review commences. In the review, the experimenter goes over his or her notes of the images and sensations reported by the receiver during the sending period.

The mentation review is an important part of the ganzfeld procedure. In the subsequent judging phase, the receiver is expected to draw on their experiences during the sending period to identify which of a series of video clips the sender was trying telepathically to project. The review provides an opportunity for the receiver to review their impressions, which also serves to refresh their memory about images which seemed vivid, unusual, dramatic, and so on. Moreover, it is assumed that the mentation imagery may provide clues as to how psi processes interact with more routine psychological processes. The review allows experimenters to ensure that their record of the receiver's imagery is accurate and complete.

During the judging phase which follows, the receiver is shown four video clips: the target and three others. On the basis of the images and sensations experienced during the sending phase, the receiver has to nominate which clip they think the sender was trying to project, or to rank each clip in terms of the likelihood that it was the target clip and therefore the object of the sender's mental projections.

The data were transcribed and analysed according to conversation analytic conventions (Hutchby & Wooffitt, 1998; Sacks, 1992; Ten Have, 1999). Analysis proceeds in stages: close description of particular cases allows a detailed insight to the organisation of a communicative practice; a more general account of the practice is subsequently developed from analysis of a collection of related cases (for a full discussion the method of CA, see Hutchby & Wooffitt, 1998; Ten Have, 1999). Despite its title, CA provides a rigorous set of analytic procedures for the investigation of all kinds of verbal interaction (Boden & Zimmerman, 1991; Drew & Heritage, 1992). It is, therefore, an appropriate methodology with which to investigate interaction in psychology laboratory experiments.

Although it emerged from the discipline of sociology, conversation analysis has been successfully adopted by scholars across a variety of disciplines, such as anthropology (Moerman, 1988), linguistics (Levinson, 1983), social psychology (Edwards, 1997; Potter & Wetherell, 1987), speech therapy (Wilkinson, 1995) and research into artificial intelligence and human-computer interaction (Luff, Gilbert, & Frohlich, 1990). The present study thus contributes to the broader interdisciplinary application of conversation analytic techniques (see also Wooffitt, 2003).

Experimenter–receiver interaction in the mentation review

In this analytic section, we focus on some routine features of experimenter–receiver interaction during the mentation review phase of the ganzfeld procedure.

The rationale behind the mentation review is that it provides the receiver the opportunity to confirm the experimenter's notes of the imagery they reported during the previous sending phase, or to expand upon their experience during the mentation: to add more information about particular images, to correct the experimenter's

mishearings or misunderstandings, and so on. After each item is introduced, there is a 'slot' in the interaction in which the receiver may speak. This orientation to the purpose of the review, and the kind of receiver activity which could occur in this sequential location, is manifest in the way in which the experimenter will momentarily withhold moving directly to the next item. For example, in extract 1, the experimenter withholds moving to the next item for periods between one half and one full second.

(1) (01–47: E1/F. 'E' is the experimenter, 'P' is the participant/receiver. 'M' or 'F' indicates the participant's gender. The transcription conventions are explained in the Appendix.)

- 1 E: 'hh next an a:p:ple.
- 2 (0.5)
- 3 E: and then a ha:nd again.
- 4 (0.4)
- 5 E: 'hhhh a strange face with bulging ey:es and
- 6 teeth grinning.
- 7 (1)
- 8 E: next you had the impression of a ↑ magazine and the
- 9 edge of the magazine
- 10 (0.6)
- 11 E: next a toadstool
- 12 (0.8)
- 13 E: 'h and then an underwater scene,
- 14 (0.6)
- 15 E: and there were worms heading towards a chest?
- 16 P: mm hm

Some participants offer further comment on every item. However, these high reciprocity participants are rare. It is more common to find that participants pass on the opportunity to speak, for example, as illustrated in extract 1, by not saying anything after the introduction of each item, or by producing minimal confirmations, such as 'yeah' or 'mm hm'.

Even low reciprocity participants occasionally provide more information. In extract 2, the experimenter first introduces the imagery 'boat=in=the=water=leaving=a=wake'; the subject uses a 'mm hm' to confirm the item and to pass on the opportunity to expand. The next imagery item, 'a pile of something?' does, however, generate further participation.

(2) (01–05: E3/F)

- 1 E: 'hh boat=in=the=water=leaving=a=wake,
- 2 P: m:m::
- 3 (0.6)
- 4 E: (tk)'hh a pile of something?
- 5 (1.1)
- 6 P: > 'h yeah < it was like a pile of pla:tes or:: (0.7) um::
- 7 (1.1) °something like that°
- 8 E: °okay:° (0.5)'h a fro:g(h) >a big one?<

There is an ambiguity about this extract, in that the experimenter may not have heard what the pile consisted of during the receiver's earlier report of his imagery, in which

case the turn is a form of repair initiation, in that 'something' exhibits the basis of the experimenter's confusion and guides the requirements of any subsequent clarification. Alternatively, the experimenter may be accurately reporting what the receiver had said during the sending phase, but that now in retrospect the receiver has a clearer understanding of the earlier imagery. Either way, this extract illustrates some common features of item expansion sequences. There is an initial and emphatic (although not immediate) confirmation followed by further information. The receiver makes an attempt to provide more detail, identifying the objects in the pile. She then says 'something like that' more quietly than the preceding talk, which marks the 'general adequacy' of the prior description and stands a closing component of the expansion turn. This closing component is matched by the experimenter's immediate 'okay' produced with a rising or 'questioning' intonation. The absence of any further receiver contribution in response to the question marked 'okay' is treated by the experimenter as licence to return to the stepwise progression through the mentation imagery, and he introduces the next item (the frog). The absence of further receiver talk after a question marked 'okay' is common throughout the corpus, and it routinely stands as the end of an expansion sequence and marks the progression to the next imagery item to be considered.

Extract 3, which comes from a ganzfeld procedure with a high reciprocity receiver, provides further evidence of this use of 'okay'. However, it also illustrates another recurrent feature of expansion sequences: that the receivers' further description of or talk about an item occupies a single turn, i.e. when the experimenter receipts expansion turns the receiver does not subsequently continue to speak on that item and a new item is introduced.

(3) (01-81: E1/M)

- 1 E: and then teeth (.) sharp teeth
 2 (0.8)
 3 E: 'hh [y-
 4 P: [yeah: that one came back (.) that was a (0.5) ° > but it from that
 5 one < ° the beginning it was like on the inside (.) the second time it
 6 came around it was like (.) looking from the outside. 'hh[h
 7 E: [mkay
 8 P: °s(h)o°
 9 E: 'hh then you saw the back of someone's hand > with < °w-°with light
 10 reflected on their faces (.) 'h as if the = light was from a tee vee screen,
 11 P: (reckon) that was like (.) a cartoon. (0.4) like a picture instead of a (.)
 12 real life °thing°
 13 E: mkay (.) 'hh a tree a

In this extract, the experimenter initially introduces the imagery of sharp teeth. After a gap, and at the same time as the experimenter begins to speak again, the receiver talks about this imagery, and although his utterance is somewhat confusing, he seems to be claiming that this was a recurrence of earlier imagery, and tries to mark the differences between the two instances. At the recognisable end of the turn, the expansion talk is receipted by the experimenter with 'mkay'. Note that the receiver then says 'so', which could be taken as projecting some final concluding talk on the teeth imagery. However, the experimenter does not withhold his talk to see if the receiver does go on to offer further comment, but moves immediately to the next item, 'the back of someone's

hand'. The receiver provides further information about this item, establishing the cartoon-like quality of the image. Again this is receipted with 'mkay' and the experimenter moves to the next item in the review.

In these extracts, item expansion turns tend to have an unequivocal and declarative design. In extract 2, for example, the receiver's expansion turn is explanatory, in that he clarifies the properties of the 'pile of something' with > yeah < it was like a pile of plates', although he does subsequently go on to offer a more equivocal description, °something like that°. Similarly, in extract 3, the receiver's expansion turns relate two appearances of the same image or offer further characterisation of the phenomenological quality of an image. In neither does the receiver question the image or express doubt about its properties.

These extracts illustrate some routine properties of the organisation of the mentation review. With the exception of the relatively rare high reciprocity participants, who provide further information or reflection about every item, receivers tend to pass on the interactional slots in which item expansion could occur. When item expansion does occur, it routinely occupies one turn in the exchange, i.e. when the experimenter has receipted an expansion turn, the receiver does not then go on to offer more information about that imagery in a subsequent turn. Moreover, receivers' expansion turns exhibit a degree of confidence in their recall of the imagery or the information they go on to provide, in that the expansion turn is produced without equivocation, cautiousness or explicit acknowledgement of difficulty of recall, or the assessment of the detail or significance of imagery experienced during the earlier sending phase of the experiment.

In the next section, however, we will examine a class of expansion sequences which exhibit different properties. It will be demonstrated that if experimenters select a different lexical token to receipt receiver expansion, then receivers may interpret that receipt as exhibiting the experimenter's understanding that the prior expansion was somehow incomplete, thus resulting in further talk about that imagery. What is significant, though, is that this further talk is characterised by explicit displays of circumspection about the imagery, thus suggesting a shift in the receiver's understanding of the nature of the imagery and their stance towards its relevance to the experiment.

Doubt-marked expansion sequences

Routinely, experimenters use 'okay' to receipt expansion turns, which then leads to a return to the stepwise progression through the imagery. On occasions, though, experimenters receipt receiver expansion in other ways, for example, with minimal utterances such as 'mm hm'.

(4) (01-21: E3/M)

- 1 E: °°(n)hh°° °o:kay,° (tk). 'hh and then I think the final thing you said was
- 2 uh:: (.) 'h something like a chair (.) > in < in a pyramid?
- 3 P: °(n)hh° yeah, > saw the < (.) the triangle thing again and then (.) °: 'h°
- 4 > something < which reminded me of like, (.) um, (0.5) 'h an upright
- 5 chair like um:, (1.5) °(n)hhh° (.) um:° > °so-° < like a black chair,
- 6 (1.4)
- 7 E: m:hm
- 8 (0.5)

486 Robin Wooffitt

- 9 P: not like the one I'm sitting on or °anything° jus::t °uh:° (3.5) > I don't
 10 know, < it was > sort of < °uhm:(h)° (2.1) > like a s- < like a sort of
 11 padded chai(hh)r or something °h° > it was just < from the side that
 12 I saw it, so > it was like < an ell shape (.) °.h°[that=
 13 E: [°mhm°
 14 P: =suggested a °chair:

In this extract, the experimenter introduces the last imagery from the receiver's report of their experiences during the earlier sending phase of the experimenter, the 'chair in a pyramid'. The receiver immediately produces an unequivocal confirmation 'yeah,' and then provides more information: there is a report of the immediately prior imagery 'the triangle thing again' and then the receiver tries to detail the imagery by drawing on an associated everyday object ' > something < which reminded me of like, (.) um, (0.5)'h an upright chair'. At this point the receiver says 'like um:,' which would suggest that the turn is incomplete. There is a gap of 1.5 seconds and then after some non-lexical contributions the receiver says ' > so-° < like a black chair;', thereby establishing how the report of the chair was related to the imagery. When this final component of the turn is complete, the receiver stops speaking.

There are good grounds for assuming that the receiver has completed his expansion turn: he has provided further detail and the final part of the turn was designed as an upshot or conclusion to prior talk, thereby signalling the terminal status of that component. Moreover, in the subsequent 1.4 second gap the receiver does not initiate further talk or take a pronounced inbreath, which routinely signals the onset of participatory status.

However, neither does the experimenter. There is no immediate response to the completion of the expansion turn. Moreover, when the experimenter does speak, he does not use 'okay' to exhibit his recognition of the likely completion of the expansion turn, but offers instead 'm:hm' (line 7).

Non-lexical contributions such as 'mm hm' and 'uh huh' might seem intuitively inconsequential; and it is common to find social science research papers which use verbal data in which such items are deliberately omitted from transcripts. However, in everyday interaction, though, minimal continuers do particular kinds of work. Speakers use them to pass on opportunities in which turn transfer could be initiated, thereby publicly displaying their producer's continued reciprocity and passive status within the interaction (Jefferson, 1984; Schegloff, 1981). Routinely, then, minimal continuers are taken to exhibit the expectation that there is more to come in the prior speaker's talk. As such, they are resources by which co-participants to interaction can facilitate another's production of an extended turn (such as telling a joke or a lengthy anecdote).

We might expect these kinds of non-lexical items to occur in the mentation review: it is designed to elicit further information and we know that minimal continuers are a device to facilitate further talk from a co-participant. It is no surprise, then, to see that this is precisely how the experimenter's 'mm hm' works in extract 4: the receiver continues to talk about the 'chair-in-a-pyramid' mentation item.

However, compare the kind of talk produced in response to the introduction of the mentation item with that turn elicited by the experimenter's minimal continuer. The first is broadly positive: it expands upon and clarifies the original mentation report. However, the post-continuer turn is different, in that the subsequent talk about the imagery is now more circumspect or hesitant than the initial expansion. There are various ways in which this circumspection is manifest.

The turn starts with an account of what the imagery is not like (line 9). There is an explicit doubt marker 'I don't know' (lines 10 and 11). Potter (1997) and Wooffitt and Widdicombe (2006) have argued that 'I dunno/I don't know' formulations have some interesting interactional properties. They are used in occasions when speakers are making sensitive or slightly controversial claims and have grounds for assuming that co-participants may be unsympathetic to or dissatisfied with the kind of report or account they are making. That is, they display speakers' awareness that recipients may not align with the position they take. 'I don't know' formulations allow the speaker to mark their own scepticism or uncertainty about what it is they are claiming, thereby aligning with the anticipated sceptical response.

Compared to the pre-continuer expansion, there is increased use of words and phrases which suggest uncertainty, such as 'sort of'. The post expansion turn is marked by perturbations and hesitations (such as intra turn gaps, word stretching, and so on). Finally, the receiver offers a recollection of his imagery which draws attention to his limited or partial perspective (the imagery was perceived in consciousness from a side view) and which emphasises that the phenomenological experience was of an 'L' shape which *suggested* a chair.

There are, then, two ways in which experimenters can receipt expansion turns, but they seem to have very different properties and outcomes. 'Okay' is produced soon after a recognisable terminal point in the expansion turn; it seems to mark the experimenter's understanding that the expansion turn is complete and tends to come immediately before progression to the next item in the review. 'Mm hm', however, is produced after a delay and precedes a further turn from the receiver in which they provide a more hesitant or cautious report or reflection on the imagery, which was the subject of the initial expansion turn.

This shift in the speaker's stance or implied confidence in the imagery is not a unique case. Here is another example, which comes from an earlier stage of the mentation review from which extract 4 was taken. Following the experimenter's minimal continuer, the participant's talk is marked by expressions of doubt or hesitation.

(5) (01-21: E3/M)

- 1 E: m:hm (0.6) 'h °ri:ght° o:kay and then I think the: 'h the
- 2 first regular impression you had was something like
- 3 images of a pyramid?
- 4 (1.0)
- 5 P: yeah:, it's like (0.5) hills or a pyramid °or something°
- 6 E: m:h[m
- 7 P: [' (n)hh uhm hh (.) >everything seems to be like <
- 8 moving, (0.5) you know, °it wasn't° (.) static °or
- 9 anything so it kept° °° >sort of<°°
- 10 (.)
- 11 E: [mm
- 12 P: [' h dunno it's just my eyes were moving or::

There is an important difference in the production of the experimenter's minimal continuer, in that, unlike the instance in extract 4, in this case it is produced without delay, immediately after the expansion turn. However, the design of the expansion turn allows the experimenter to anticipate its completion and thereby 'cues in' the start of the experimenter's expansion receipt. This is because the expansion turn is produced as

a three part list. The actual reference to the imagery is produced as a list of two specific items, 'hills' and 'a pyramid', and is completed by a more general reference, the quietly spoken 'or something'. Jefferson (1990) has studied listing in everyday conversational interaction and has shown that speakers orient to lists as being complete upon the provision of a third part. The norm that lists should have three parts is further evidenced by the use of generalised list completers: phrases such as 'or something', 'and so on', and the like, which allow a speaker to complete a list in three parts even when a relevant third item may not be forthcoming. The normative convention that lists should come in three parts allows speakers to anticipate the onset of turn transition spaces in interaction, and is therefore one of a range of tacit inferential resources by which speaker transition is managed (Sacks *et al.*, 1974). (See also Atkinson, 1984, on the use of lists to coordinate the production of audience applause in political rhetoric.)

The receiver's expansion turn in line 5, then, has the properties of a list, the three parted character of which is established via a generalised list completer. This is relevant, in that it warrants the claim that the experimenter was aware that the receiver's expansion turn was complete upon the provision of the third item. Indeed, the precision timed 'mm hm' exhibits the experimenter's understanding that this was a space in the interaction in which a contribution would be normatively appropriate (Sacks *et al.*, 1974).

Immediately after the 'mm hm', the receiver begins a further turn. Initially there is an inaudible breath, which indicates preparation for speaking, a hesitation marker, and the report that '> everything seems to be like < moving, (0.5) you know', which suggests the basis for uncertainty about or lack of confidence in the nature of the imagery. The receiver goes on to employ another explicit doubt marker when he proposes an explanation for this sense of movement: 'dunno it's just my eyes were moving or:::'.

What we have, then, is an emerging rationalisation of the participant's depiction and displayed understanding of the image. In the first expansion turn he merely reports factually what the imagery was like: hills or pyramids. However, in the subsequent post-continuer expansion turn, there is marked doubt about the basis of his understanding of the imagery because of general movement, and this movement is itself explained in terms of normal causes: minor oscillations of the eye during the mentation phase of the procedure.

The expression of doubt or uncertainty about imagery, as illustrated in extract 4, and the incremental rationalisation of imagery, as illustrated in extract 5, are discursive phenomena that seem to be intimately connected to the experimenter's use of a minimal continuer to receipt an initial period of expansion, rather than 'okay'. There seems, then, to be an interactional basis for the production of doubt marked expansion sequences.

Minimal expansion receipts and occasioning of doubt

The production of doubt marked expansion sequences after minimal continuer expansion receipts seems to be a robust phenomenon. In the following extract, there are two further instances.

(6) 01–28: E2/F

- 1 E: and you said you felt you could see for miles (.)
- 2 across countryside, =
- 3 P: = yea^of-s^o, () 'hh like I was flying across it

- 4 (0.5)
 5 E: (h) m ↑ hm
 6 P: 'hh looking down over (0.5)'hhh hhh fields a-> I don't
 7 know: < it was very odd hh yeah,
 8 E: °m° ↑ hm
 9 P: °°·hhhh hhhh°°
 10 (0.3)
 11 P: (°mus:-°) > I'd- < ↑hh (.)'h ↑ I'M NOT VERY GOOD
 12 AT DESCRIBING IT it's a very weird > sort of <
 13 va:gue (.)'hh (1.2) > °it° < just felt like (> sort of
 14 you <) so::: (0.3)'hh body's just: (1.2) taking off

Here there are three turns in which the receiver expands upon the imagery 'seeing miles across countryside'. In the first, she establishes that this perspective was similar to that facilitated by flight (line 3). There is a half second gap after this turn and the experimenter produces the first minimal continuer expansion receipt. Immediately the receiver returns to the imagery, reporting that she was 'looking down over (0.5)'hhh hhh fields'. She then speeds up the rate of speech (as indicated by the 'greater than' and 'less than' symbols), and produces a doubt marker (lines 6 and 7), and then, by way of closing summary formulation, explicitly refers to the strangeness of the image, 'it was very odd hh yeah' (line 7). Both these turn components establish a degree of uncertainty in the receiver's current recollection and understanding of the imagery. There is another experimenter continuer (line 8) and after a pronounced spate of breathing and a 0.3 second gap, the receiver speaks again. The first clearly articulated part of this turn is 'I'd', but this is abandoned and then, at louder volume, she says '↑ I'M NOT VERY GOOD AT DESCRIBING IT' which unequivocally exhibits a basis for circumspection about the receiver's confidence in her recollection of the imagery. This is then followed by further talk, which identifies the strangeness of the experiences and refers to the lack of precision in her recollection, 'it's a very weird > sort of < va:gue'.

Finally, in extract 7, the receiver responds to the introduction of the imagery item by correcting the experimenter's description rather than volunteering an expansion. However, the sequential trajectory of this spate of interaction follows the pattern identified in earlier extracts: the corrective turn provides clarification of and further detail about the imagery, it is (eventually) receipted by a minimal continuer and then the receiver produces a further turn, which exhibits a relatively greater degree of circumspection.

(7) 01-31: E3/M

- 1 E: °°m,°° (0.5) °okay,°° (0.5).hhhh (0.4) then you said at
 2 one stage feels like it's uh:: °°n-°° > I I < ↑thought you
 3 said? something like a rolling uh:, °°mm°°= uh::, 'h
 4 head? (.) but did you mean like a rolling field?
 5 or:, [°()°
 6 P: [no:: °a-° I remember at one (.) point, (0.7) eh::,
 7 (1.1) it seemed as if there was somebody rolling over
 8 the ground? °·hh°
 9 E: m: [hm,
 10 P: [> and, < (0.2) tha:t was when I started (.) thinking
 11 about this person 'hh

490 Robin Wooffitt

- 12 E: [mhm,
13 P: [°and° (0.3) it was as if he was: like? (1.1) °hh° he was
14 rolling over towards:: °° > uh < °°°a kinda? °hhh wee
15 (.)°°u°°= hi:ll or lump or something in the
16 ground and then? °°hh° °almost° like burrowing
17 under it
18 (1.3)
19 E: m:°hm°
20 (1.0)
21 P: °°e:h it-°° ° > it was all very, < ° it was very kinda, i- (.)
22 you know, (0.7) indistinct but, °u° (.) that was the
23 >kind of feeling that I was getting,

Here the receiver's expansion turn corrects the experimenter's report of the mentation imagery (lines 6–17). During this turn, the experimenter produces two minimal continuers. In each case, the receiver continues to talk and uses 'and' to establish that the turn had not been completed at those points at which the experimenter produced the minimal continuers. Eventually, there is a 1.3 second gap (line 18) and then the experimenter issues another minimal continuer, this time clear of any surrounding receiver talk.

This use of a minimal continuer to receipt the correction again elicits further information about the imagery. In the first components of this turn, the receiver explicitly describes how indistinct the imagery was (lines 21 and 22). He then characterises his understanding of the imagery as a feeling, which markedly downgrades the expressed or implied certainty compared with the prior correction.

The implications of doubt-marked expansion sequences

Doubt-marked expansion sequences may be significant for the following reason. The ganzfeld experiment is designed to investigate whether or not images in one person's consciousness can be transmitted by volitional thought alone into the consciousness of someone else. The logic of the experiment, then, means that receivers are aware of the possibility that the images they experience and report during the sending phase of the experiment are not their own; or at least, they do not originate in their own consciousness or arise from their own cognitive procedures. It is more likely that the receiver's assessment of the parapsychological significance of their imagery will be informed by their assessment or understanding of its inferable source. And this in turn may be significant when the receiver moves to the judging phase of the experiment and has to select which of four candidate film clips was the object of the sender's mental projections based on their conscious imagery during the sending phase. Imagery which seems transparently to reflect the routine circumstances of the experiment, or which is manifestly the epiphenomenon of mundane physiological events, or about which there is doubt and uncertainty, is unlikely to be interpreted as originating from an external source. How the receiver reflects on his or her imagery, then, may be consequential for the way in which they make decisions in the judging phase of the experiment, which in turn, of course, influences the degree to which this particular experiment – and the ganzfeld procedure more generally – stands as a convincing and replicable demonstration of psi.

Discussion

In the mentation review phase of ganzfeld experiments, receivers are invited to review, correct or expand upon the experimenter's record of the imagery they experienced and reported during the earlier sending phase. In most cases, they do not take up the opportunity to talk further about each item. Occasionally, though, they expand upon the experimenter's report providing more information, or clarifying or correcting the experimenter's description. In this paper we have focused on two ways in which the experimenter can proceed after the initial expansion turn and the implications of the different sequential outcomes initiated by the two forms of expansion receipt. 'Okay' seems to exhibit the experimenter's understanding that the expansion turn is complete, and precedes a return to the stepwise progression through the experimenter's record of the receiver's imagery. However, 'Mm hm' generates further talk about the imagery which was the subject of the initial expansion turn and the return to the item-by-item progression through the record of the imagery is delayed. Moreover, in various ways this subsequent turn exhibits caution, uncertainty or circumspection about the imagery, and the receiver's degree of confidence in its properties or apprehension. Thus, there are explicit references to how vague or indistinct the imagery was; there are reports of its strangeness (thus acknowledging the difficulty of accurate description); there are explicit formulations of doubt, 'I don't know'; there are phrases such as 'sort of', which modulate or conditionalise the attempt at description; and there are speech perturbations and dysfluencies, such as relatively long pauses, hesitation markers, and instances of turn components abandoned or terminated in mid production.

In the context of an experimental situation, the receivers seem to hear minimal continuers produced in the clear of on-going talk and after their initial expansion turn as exhibiting the experimenter's understanding that the prior expansion is incomplete and that there is more to come. Moreover, from the design of their subsequent turns, it is clear that receivers infer that the experimenters' 'mm hm' displays some level of scepticism about the implied certainty of their initial expansion turn; or that it orients to an expectation that they should temper or downgrade the degree of expressed certainty, or at least exhibit an awareness of the contingencies which may effect clear recall of conscious imagery initially experienced at an earlier phase of the experiment. It is unclear at this stage of the analysis, though, why expansion turns receipted by minimal continuers should generate this kind of talk; this issue is the focus of on-going research.

To conclude, I want to outline how this analysis is relevant to parapsychology, and to broader investigation of the nature and impact of social dynamics in psychology laboratory practices.

This analysis is relevant to parapsychology because it exposes the infrastructure of interactional practices that may have a bearing on the outcome of the experiment. After the review, the receivers go to the judging phase of the experiment. They will see four video clips and will be asked to identify which of these they think the sender was concentrating on based on their imagery during the sending period of the experiment. They rely on their imagery to guide them in deciding which of the four clips was the focus of the sender's attention. However, if the interaction between experimenter and receiver during the review is organised such that it encourages receivers to express their doubt or uncertainty about their imagery, it is at least possible that they will have less confidence in relying on their imagery to identify significant events or themes in the video clips. Their decision as to what they think the target is may well be influenced by

their tacit awareness of the stance they adopted towards their imagery - a stance which was not initially exhibited in their expansion in response to the introduction of that mentation item, but which seems to have been interactionally generated in the way that expansion was subsequently receipted by the experimenter.¹

Utterances such as 'okay' and 'mm hm' may seem broadly similar kinds of expressions: simply two ways to acknowledge prior turns. However, in this analysis, I have shown that even when they occur in the same sequential location - to receipt a prior expansion turn - they appear to generate very different interactional trajectories. On the basis of the kind of turns they go on to produce, it is clear that receivers draw specific inferences about what kind of discursive activity is next expected of them by virtue of the experimenter's use of 'mm hm' to receipt their initial expansion turn. And, insofar as these next activities display a particular stance towards the receivers' conscious imagery - perhaps the most important element in the experimental procedure - their production may have a bearing on the receivers' subsequent behaviour in the experiment. It is these analytic observations which relate to the broader concept of the demand characteristics in laboratory-based experimental settings.

We will explore two key aspects of Orne's (1962) paper. First, he argues that it is necessary to recognise that experimental participants pick up cues about the purpose of the experiment during the procedure. Second, he discusses the importance of expectations attached to the roles of experimenter and research participant: '[T]he experimental situation is one which takes place within the context of an explicit agreement of the subject to participate in a special form of social interaction known as "taking part in an experiment." Within the context of our culture the roles of subject and experimenter are well understood and carry with them well-defined mutual role expectations' (Orne, 1962: 777).

For Orne, then, key features of the social psychology of the psychology experiment are role expectations and cues via which the research participant may attempt to understand the significance of the tasks they have been asked to perform. However, his account does not consider the interactional and normative basis of communication between experimenter and participant. This may be highly significant for the following reasons.

First, the notion of social role is problematic, in that it traditionally draws upon a static notion of contextually relevant identities and fails to provide an adequate account of the ways in which role or identity expectations are managed and negotiated in actual spates of interaction. There are now numerous studies in conversation analysis and discursive psychology which have revealed the ways in which the relevance of characterisations and attributions of identity are interactional achievements (e.g. Antaki, Condor, & Levine, 1996; Antaki & Widdicombe, 1998; Edwards, 1991; Nikander, 2002; Widdicombe, 1993; Widdicombe & Wooffitt, 1990, 1995). What these and other studies have demonstrated is that detailed analysis of talk-in-interaction associated with conversation analytic research offers an empirically grounded account of the communicative mechanisms by which participants in interaction orientate to the social roles or social identities as their relevance is interactionally occasioned. A sequential

¹ The discussion of the possible effects of interactional practices on experimental outcome is necessarily speculative because the analysis of the interaction in the mentation review was undertaken without knowledge of result of the subsequent judging phase. It was not possible, then, to explore relationships between the use of minimal continuers and doubt marked expansion sequences and subsequent performance in the judging phase.

analysis of identity in interaction in psychological experiments would significantly enrich our understanding of the ways in which the identity of 'experimenter' and 'research receiver' impact upon the participants' conduct in laboratory experiments.

Second, consider the claim that the research participant picks up on cues in experimental procedures which expose the experimenter's intentions or interests. In this account, the research participants' interpretation of the significance of an act or event seems to occur in an interactional vacuum, in that it is not grounded in the flow and development of interpersonal activities which constitute a social encounter. Yet, it is highly likely to be the case that the kind of events or activities which may be significant will be communicative acts: things that the experimenter says. However, the analytic observations presented earlier demonstrate that the significance of experimenter turns may be tied to the sequential context in which they occur. The recurrent communicative practices which are characteristic of an experimental procedure provide the basis of the receivers' understanding of the turn-by-turn unfolding of the encounter. Relatedly, the analyses suggest that the receivers' inferences about the ongoing interaction are informed by their tacit analysis of the kind of activity the experimenter's prior turn was designed to perform.

Finally, the kind of inferences which a participant may draw about the implications of the experimenter's turns is related to the wider normative expectations relevant to the setting. Hence, the receivers' production of circumspect or doubt-marked expansion turns following a 'mm hm' receipt display their inference about the kind of turn which is expected and normatively appropriate at that moment in the interaction. The notion of cues in experimental practice is important, as it directs our attention to participants' inferences about the significance of events in a laboratory procedure. But to develop an empirically grounded appreciation of the ways in which participants draw inferences from the experimenters' activities, it is necessary to examine the normative properties of those communicative practices through which the experiment as a form of social interaction is produced.

In this paper I have examined data from the kind of parapsychological experiment which rarely receives attention in mainstream psychology journals. I have tried to show that a conversation analytic study of experimenter-participant interaction can contribute to parapsychologists' research on the factors which may influence the outcome of experiments designed to investigate claims of parapsychological cognition, while at the same time making a contribution to our understanding of the impact of the social dynamics in psychology experiments more generally.

Acknowledgements

I would like to acknowledge the assistance of the late Professor Robert Morris, and his colleagues at the Koestler Parapsychology Unit, who made available the Edinburgh ganzfeld data for this research. The work reported in this paper was supported by grants from the Bial Foundation (Portugal), and the Perrott-Warrick Fund (Cambridge), and I am grateful for their generous assistance. I would also like to thank the Editor and two anonymous referees for their valuable comments on an earlier version of this paper.

References

- Antaki, C., Condor, S., & Levine, M. (1996). Social identities in talk: Speakers' own orientations. *British Journal of Social Psychology*, 35, 473-492.
- Antaki, C. & Widdicombe, S. (Eds.), (1998). *Identities in talk*. London: Sage.

- Arminen, I. (2005). *Institutional interaction: Studies of talk at work*. Aldershot: Ashgate.
- Atkinson, J. M. (1984). Public speaking and audience responses: Some techniques for inviting applause. In J. M. Atkinson & J. Heritage (Eds.), *Structures of social action: Studies in conversation analysis* (pp. 370–409). Cambridge: Cambridge University Press.
- Atkinson, J. M. & Heritage, J. (Eds.). (1984). *Structures of social action: Studies in conversation analysis*. Cambridge: Cambridge University Press.
- AuBuchon, P. G., & Calhoun, K. S. (1985). Menstrual cycle symptomatology: The role of social expectancy and experimental demand characteristics. *Psychosomatic Medicine*, 47(1), 35–45.
- Bem, D., & Honorton, C. (1994). Does psi exist? Replicable evidence for an anomalous process of information transfer. *Psychological Bulletin*, 115, 4–18.
- Bem, D. J., Palmer, J., & Broughton, R. S. (2001). Updating the ganzfeld database: A victim of its own success? *Journal of Parapsychology*, 65, 207–218.
- Bennett, G. (1987). *Traditions of belief: Women, folklore and the supernatural today*. London and Harmondsworth: Penguin Books.
- Berkowitz, L., & Troccoli, B. T. (1986). An examination of the assumptions in the demand characteristics thesis: With special reference to the Velten mood induction procedure. *Motivation and Emotion*, 10(4), 337–349.
- Bjorkland, D. F., Cassel, W. S., Bjorklund, B. R., Brown, R. D., Park, C. L., Ernst, K. I. M., et al. (2000). Social demand characteristics in children's and adult's eyewitness memory and suggestibility: The effect of different interviewers on free recall. *Applied Cognitive Psychology*, 14(5), 421–433.
- Boden, D. & Zimmerman, D. H. (Eds.). (1991). *Talk and social structure: Studies in ethnomethodology and conversation analysis*. Cambridge: Polity Press.
- Braud, W., & Anderson, R. (Eds.). (1998). *Transpersonal research methods for the social sciences: Honoring human experience*. Thousand Oaks, CA: Sage.
- Broughton, R. (1991). *Parapsychology: The controversial science*. London and Sydney: Rider.
- Button, G. and Lee, J. (eds) (1987). *Talk and Social Organisation*. Clevedon and Philadelphia: Multilingual Matters.
- Campbell, C., & McIver, S. (1987). Cultural sources of support for contemporary occultism. *Social Compass*, 34(1), 41–60.
- Cardena, E., Lynn, S. J., & Krippner, S. (Eds.). (2000). *Varieties of anomalous experience: Examining the scientific evidence*. Washington, DC: The American Psychological Association.
- Collins, H. M., & Pinch, T. J. (1982). *Frames of meaning: The social construction of extraordinary science*. London: Routledge and Kegan Paul.
- Cramer, D., & Buckland, N. (1995). Effect of rational and irrational statements and demand characteristics on task anxiety. *Journal of Psychology*, 129(3), 269–275.
- Drew, P., & Heritage, J. (1992). *Talk at work: Interaction in institutional settings*. Cambridge: Cambridge University Press.
- Edge, H. L., Morris, R. L., Palmer, J., & Rush, J. H. (1986). *Foundations of parapsychology: Exploring the boundaries of human capability*. Boston: Routledge and Kegan Paul.
- Edwards, D. (1991). Categories are for talking: On the cognitive and discursive bases of categorisation. *Theory and Psychology*, 1(4), 515–542.
- Edwards, D. (1997). *Discourse and cognition*. London: Sage.
- Fernandez, E., & Turk, D. C. (1994). Demand characteristics underlying differential ratings of sensory versus affective components of pain. *Journal of Behavioral Medicine*, 17(4), 375–390.
- Forer, B. R. (1949). The fallacy of personal validation: A classroom demonstration of gullibility. *Journal of Abnormal and Social Psychology*, 44, 118–123.
- Giesler, P. V. (1986). Sociolinguistics and the psi conducive context of laboratory and field setting: A speculative commentary. In D. H. Weiner & R. D. Radin (Eds.), *Research in parapsychology 1985* (pp. 111–115). Metuchen, NJ and London: The Scarecrow Press.
- Gross, R. (2003). *Themes, issues and debates in psychology* (2nd ed.). London: Hodder and Stoughton.

- Hayes, N. (2000). *Foundations of psychology* (3rd ed.). London: Thomson Learning.
- Heritage, J. and Maynard, D. (2006). *Communication in medical care: Interaction between physicians and patients*. Cambridge: Cambridge University Press.
- Hess, D. J. (1993). *Science in the new age: The paranormal, its defenders and debunkers, and American culture*. Wisconsin: University of Wisconsin Press.
- Honorton, C., Ramsey, M., & Cabibbo, C. (1975). Experimenter effects in extrasensory perception. *Journal of the American Society for Psychical Research*, 69, 135–139.
- Hufford, D. (1982). *The terror that comes in the night: An experience-centred study of supernatural assault traditions*. Philadelphia: University of Pennsylvania Press.
- Hufford, D. (1995). Beings without bodies: An experience-centered theory of the belief in spirits. In B. Walker (Ed.), *Out of the ordinary folklore and the supernatural* (pp. 11–45). Logan: University of Utah Press.
- Hutchby, I., & Wooffitt, R. (1998). *Conversation analysis: Principles, practices and applications*. Oxford: Polity Press.
- Hyman, R. (1977). Cold reading: How to convince strangers that you know all about them. *Skeptical Enquirer*, 2, 18–37.
- Hyman, R. (1985). The ganzfeld psi experiment: A critical appraisal. *Journal of Parapsychology*, 49, 3–49.
- Hyman, R., & Honorton, C. (1986). A joint communique: The psi ganzfeld controversy. *Journal of Parapsychology*, 50, 351–364.
- Irwin, H. J. (1999). *An introduction to parapsychology* (3rd ed.). Jefferson, NC and London: McFarland.
- Jefferson, G. (1984). Notes on the systematic deployment of the acknowledgement tokens 'yeah' and 'hm mm'. *Papers in Linguistics*, 1(7), 197–206.
- Jefferson, G. (1990). List construction as a task and resource. In G. Psathas (Ed.), *Interaction competence* (pp. 63–92). Washington DC: University Press of America.
- Kihlstrom, J. F. (2002). Demand characteristics in the laboratory and the clinic: Conversations and collaborations with subjects and patients. *Prevention & Treatment*, [Special issue honoring Martin T. Orne], 5, Article 36c. Available on the World Wide Web: <http://journals.apa.org/prevention/volume5/pre0050036c.html> Accessed 20-9-2005.
- Lampinen, J. M., Neuschatz, J. S., & Payne, D. G. (1999). Source attributions and false memories: A test of the demand characteristics account. *Psychonomic Bulletin and Review*, 6(1), 150–155.
- Levinson, S. (1983). *Pragmatics*. Cambridge: Cambridge University Press.
- Luff, P., Gilbert, G. N., & Frohlich, D. (Eds.), (1990). *Computers and conversation*. London: Academic Press.
- MacLeod, C. M. (1999). The item and list methods of directed forgetting: Test differences and the role of demand characteristics. *Psychonomic Bulletin and Review*, 6(1), 123–129.
- Malec, J., & Sippelle, C. N. (1977). Physiological and subjective effects of Zen meditation and demand characteristics. *Journal of consulting and clinical psychology*, 45(2), 339–340.
- McClenon, J. (1982). A survey of elite scientists: Their attitudes towards ESP and parapsychology. *Journal of Parapsychology*, 46, 127–152.
- McClenon, J. (1994). *Wondrous events: Foundations of religious belief*. Philadelphia: University of Philadelphia Press.
- McKenna, F. P., & Lewis, C. (1994). A speech rate measure of laboratory induced affect: The role of demand characteristics revisited. *British Journal of Clinical Psychology*, 33(3), 345–351.
- Milton, J. (1999). Should ganzfeld research continue to be crucial in the search for a replicable psi effect? Part I: Discussion paper and an introduction to an electronic mail discussion. *Journal of Parapsychology*, 63(4), 309–333.
- Milton, J., & Wiseman, R. (1997). Ganzfeld at the crossroads: A meta-analysis of the new generation of studies. *Proceedings of the 46th Annual Convention of the Parapsychological Association*. New York: The Parapsychological Association, 277–292.

- Moerman, M. (1988). *Talking culture: Ethnography and conversation analysis*. Philadelphia: University of Pennsylvania Press.
- Nikander, P. (2002). *Age in action: Membership work and stages of life categories in talk*. Helsinki: Academia Scientiarum Fennica.
- Orne, M. T. (1962). On the social psychology of the psychological experiment: With particular reference to demand characteristics and their implications. *American Psychologist*, 17, 776-783.
- Orne, M. T., & Bauer-Manley, N. K. (1991). Disorders of self: Myths, metaphors and the demand characteristics of treatment. In J. Strauss & G. R. Goethals (Eds.), *The self: Interdisciplinary approaches* (pp. 93-106). New York: Springer-Verlag.
- Orne, M. T., & Whitehouse, W. G. (2000). Demand characteristics. In A. E. Kazdin (Ed.), *Encyclopedia of psychology* (pp. 469-470). Washington, DC: American Psychological Association and Oxford University Press.
- Parker, A. (2000). A review of the ganzfeld work at Gothenburg University. *Journal of the Society for Psychical Research*, 64(1), 1-15.
- Parnia, S., Waller, D. G., Yeates, R., & Fenwick, P. (2001). A qualitative and quantitative study of the incidence, features and aetiology of near death experiences. *Resuscitation*, 48, 149-156.
- Potter, J. (1997). Discourse analysis as a way of analysing naturally occurring talk. In D. Silverman (Ed.), *Qualitative analysis: Issues of theory and method* (pp. 144-160). London: Sage.
- Potter, J., & Wetherell, M. (1987). *Discourse and social psychology: Beyond attitudes and behaviour*. London: Sage.
- Radin, D. (1997). *The conscious universe: The scientific truth of psychic phenomena*. New York: HarperEdge.
- Rosenthal, R., & Fode, K. L. (1963). The effect of experimenter bias on the performance of the albino rat. *Behavioral Science*, 8, 183-189.
- Rosenthal, R., & Jacobson, L. (1966). 'Teachers' expectancies: Determinants of pupils' IQ gains'. *Psychological Reports*, 19, 115-118.
- Sacks, H. (1992). Lectures on Conversation. In G. Jefferson & E. A. Schegloff (Eds.), (Vols. I and II). Oxford and Cambridge, MA: Basil Blackwell.
- Sacks, H., Schegloff, E. A. and Jefferson, G. (1974). A simplest systematics for the organisation of turn-taking for conversation. *Language*, 50: 696-735.
- Schegloff, E. A. (1981). Discourse as an interactional achievement: Some uses of 'uh huh' and other things that come between sentences. In D. Tannen (Ed.), *Analysing discourse: Georgetown university roundtable on languages and linguistics* (pp. 71-93). Washington, DC: Georgetown University Press.
- Schlitz, M. J., & Honorton, C. (1992). Ganzfeld psi performance within an artistically gifted population. *Journal of the American Society for Psychical Research*, 86, 83-98.
- Schmiedler, G. R., & Edge, H. (1999). Should ganzfeld research continue to be crucial in the search for a reliable psi effect? Part II: Edited ganzfeld debate. *Journal of Parapsychology*, 63(4), 335-388.
- Schneider, R., Binder, M., & Walach, H. (2000). Examining the role of neutral versus personal experimenter-receiver interactions: An EDA-DMILS experiment. *Journal of Parapsychology*, 64, 181-194.
- Singer, B., & Benassi, V. A. (1981). Occult beliefs. *American Scientist*, 9, 49-55.
- Smith, M. D. (2003). The role of the experimenter in parapsychological research. *Journal of Consciousness Studies*, Special Edition: Psi Wars, edited by J. Alcock, J. Burns and A. Freeman, 10, 6-7: 69-84.
- Storm, L. (2000). Research note: Replicable evidence of psi: A revision of Milton's 1999 meta-analysis of the ganzfeld databases. *Journal of Parapsychology*, 64(4), 411-416.
- Storm, L., & Ertel, S. (2002). The ganzfeld debate continued: A response to Milton and Wiseman 2001. *Journal of Parapsychology*, 673-682.
- Strober, M. & Meynell, H. (Eds.), (1996). *Critical reflections on the paranormal*. New York: State University of New York Press.

- Te Molder, H. and Potter, J. (2005). *Talk and cognition: Discourse, mind and social interaction*. Cambridge: Cambridge University Press.
- Ten Have, P. (1999). *Doing conversation analysis: A practical guide*. London and Thousand Oaks: Sage.
- Utts, J. M. (1995). An assessment of the evidence for psychic functioning. *Journal of Parapsychology*, 59, 289–320.
- Van Lommel, P., van Wees, R., Meyers, V., & Elfferich, I. (2001). Near-death experience in survivors of cardiac arrest: A prospective study in the Netherlands. *Lancet*, 358, 2039–2045.
- Walker, B. (Ed.). (1995). *Out of the ordinary folklore and the supernatural*. Logan: University of Utah Press.
- Watt, C. (2002). Experimenter effects with a remote facilitation of attention focusing task: A study with multiple believer and disbeliever experimenters. *Proceedings of Presented Papers, 45th Annual Parapsychological Association Convention*, Fairhaven, MA: Parapsychological Association, 306–318.
- West, D. J. (1954). *Psychical research today*. London: Penguin.
- Whitehouse, W. G., Orne, E. C., & Dinges, D. F. (Eds.). (2002). On the social psychology of the psychological experiment: With particular reference to demand characteristics and their implications and following commentaries. *Prevention & Treatment*, [Special issue honoring Martin T. Orne], 5, Article 34. Available on the World Wide Web: <http://journals.apa.org/prevention/volume5/pre0050034.html> Accessed 20-9-2005.
- Widdicombe, S. (1993). Autobiography and change: Rhetoric and authenticity of 'gothic' style. In E. Burman & I. Parker (Eds.), *Discourse analytic research: Repertoires and readings of texts in action*. London: Routledge.
- Widdicombe, S., & Wooffitt, R. (1990). 'Being' versus 'doing' punk: On achieving authenticity as a member. *Journal of Language and Social Psychology*, 9, 257–277.
- Widdicombe, S., & Wooffitt, R. (1995). *The language of youth subcultures: Social identity in action*. Hemel Hempstead: Harvester Wheatsheaf.
- Widner, R. L. Jr., Smith, S. M., & Graziano, W. G. (1996). *American Journal of Psychology*, 109(4), 525–538.
- Wilkinson, R. (1995). Aphasia: Conversation analysis of a non-fluent aphasic. In M. Perkins & S. Howard (Eds.), *Case studies in clinical linguistics*. London: Whurr.
- Williams, C. (1996). Metaphor, parapsychology and psi: An examination of metaphors related to paranormal experience and parapsychological research. *Journal of the American Society for Psychical Research*, 90, 174–201.
- Wiseman, R., & Schlitz, M. (1997). Experimenter effects and the remote detection of staring. *Journal of Parapsychology*, 61, 197–207.
- Wooffitt, R. (1992). *Telling tales of the unexpected: The organisation of factual discourse*. Hemel Hempstead: Harvester Wheatsheaf.
- Wooffitt, R. (2003). Conversation analysis and parapsychology: Experimenter-subject interaction in ganzfeld experiments. *Journal of Parapsychology*, 67, 299–324.
- Wooffitt, R. (2005). Language and the study of parapsychological phenomena. In M. A. Thalbourne & L. Storm (Eds.), *Parapsychology in the 21st century: Essays on the future of psychical research*. North Carolina and London: McFarland, 305–336.
- Wooffitt, R. (2006). *The language of mediums and psychics: The social organisation of everyday miracles*. Aldershot: Ashgate.
- Wooffitt, R., & Allistone, S. (2005). Towards a discursive parapsychology: Language and the laboratory study of anomalous communication. *Theory and Psychology*, 15(3), 325–355.
- Wooffitt, R., & Widdicombe, S. (2006). Interaction in interviews. In P. Drew, G. Raymond, & D. Weinberg (Eds.), *Talking research*. London and Thousand Oaks, CA: Sage.
- Young, D. E., & Goulet, J.-G. (Eds.). (1994). *Being changed by cross-cultural encounters: The anthropology of extraordinary experience*. Peterborough, Ontario: Broadview Press.

Appendix: Transcription symbols

The transcription symbols used here are common to conversation analytic research, and were developed by Gail Jefferson. The following symbols are used in the data.

(.5)	The number in brackets indicates a time gap in tenths of a second.
(.)	A dot enclosed in a bracket indicates pause in the talk less than two tenths of a second.
ˈhh	A dot before an 'h' indicates speaker in-breath. The more h's, the longer the inbreath.
hh	An 'h' indicates an out-breath. The more 'h's the longer the breath.
(())	A description enclosed in a double bracket indicates a non-verbal activity. For example ((banging sound))
-	A dash indicates the sharp cut-off of the prior word or sound.
:::	Colons indicate that the speaker has stretched the preceding sound or letter. The more colons the greater the extent of the stretching.
()	Empty parentheses indicate the presence of an unclear fragment on the tape.
(guess)	The words within a single bracket indicate the transcriber's best guess at an unclear fragment.
.	A full stop indicates a stopping fall in tone. It does not necessarily indicate the end of a sentence.
↑↓	Pointed arrows indicate a marked falling or rising intonational shift. They are placed immediately before the onset of the shift.
,	A comma indicates a continuing intonation.
?	A question mark indicates a rising inflection. It does not necessarily indicate a question.
CAPITALS	With the exception of proper nouns, capital letters indicate a section of speech noticeably louder than that surrounding it.
° °	Degree signs are used to indicate that the talk they encompass is spoken noticeably quieter than the surrounding talk.
°° °°	Double degree signs have been used to indicate whispered or extremely quiet talk.
Thaght	A 'gh' indicates that word in which it is placed had a guttural pronunciation.
> <	'More than' and 'less than' signs indicate that the talk they encompass was produced noticeably quicker than the surrounding talk.
=	The 'equals' sign indicates contiguous utterances. For example:
[Square brackets between adjacent lines of concurrent speech
]	indicate the onset and end of a spate of overlapping talk.

A more detailed description of these transcription symbols can be found in Atkinson & Heritage (1984: ix-xvi).